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A PUBLICATION OF THE INFORMATION CENTER BUREAU

MONTANA DEPARTMENT OF ADMINISTRATION

INFORMATION SERVICES DIVISION

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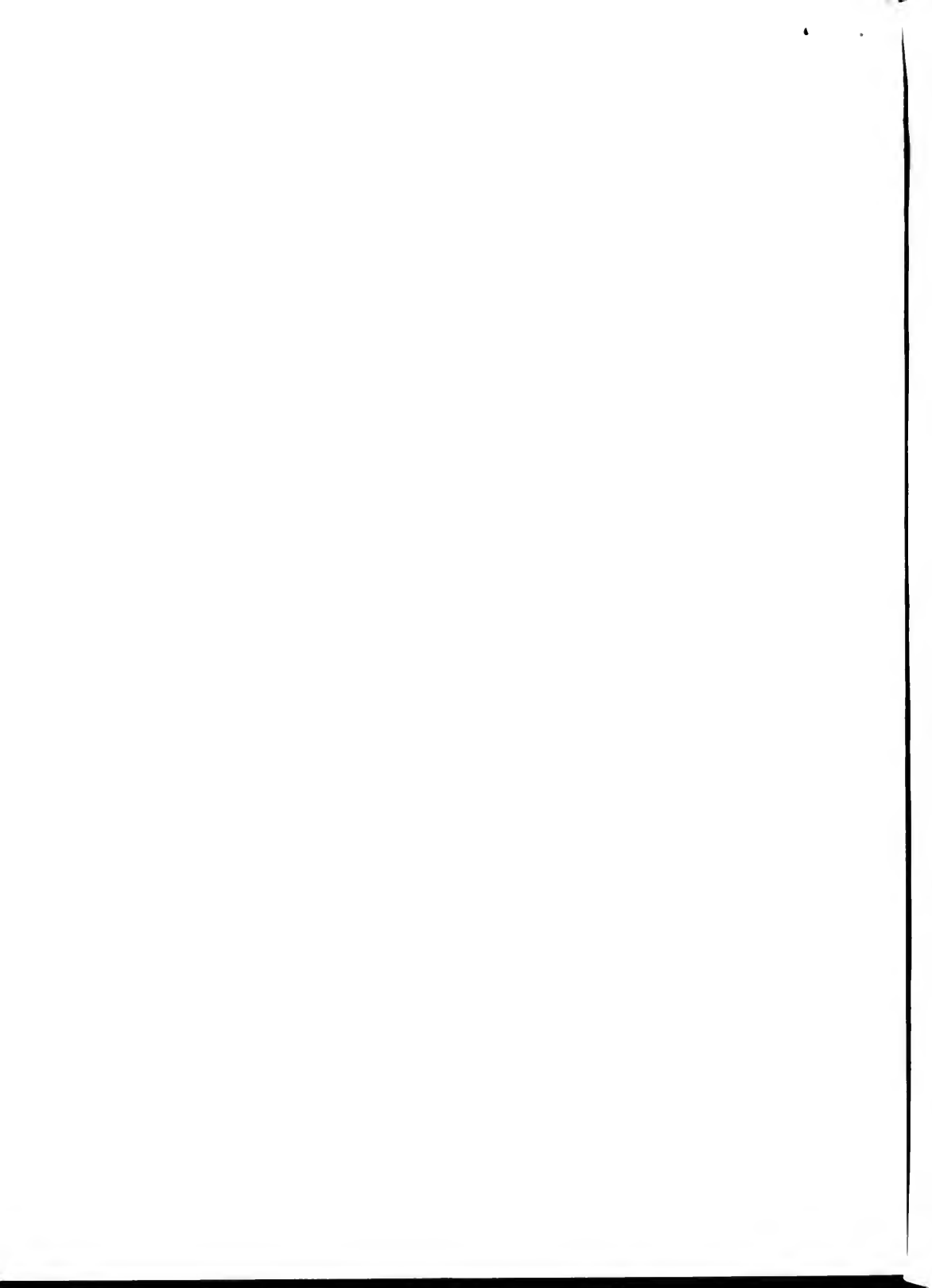
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DEADHEAD



MAINFRAME SECTION

MAINFRAME COMMUNICATIONS

ISD supports different methods of communication with the mainframe computer. If you need advice on which method of communication to use for your application, contact the Information Center Bureau, 444-2973.

Before you purchase any communication software or communication boards please send the request with data processing justification form to Mary Olson, Resource Management Unit. On the justification form include the expected installation date, and the reason for selecting this communication method.

If you want to connect equipment you already own to the state's central communication network, you must notify Dennis Sheline, Telecommunications Bureau, 444-2869. Please allow adequate time (6 to 8 weeks) for ISD to make necessary arrangements.

CREATING COMPUTER MENUS THAT PEOPLE UNDERSTAND EASILY

by DR. Janice Redish

A menu in a computer software program is like a menu in a restaurant. It's a list of choices. From the Main Menu in my word processing program, I can choose to begin any of several tasks, including:

- C Create a new file
- E Edit an existing file
- P Print a file
- S Save a file

just by typing the letter that represents the task I want. The computer responds in a way that is appropriate for the choice I make. If I choose C, it asks me for a name for my new file. If I choose P, it brings up another menu with more choices to help me decide how I want to print the file.

Menus for computer users are relatively new. They've come in with the development of microcomputer and programs for new and casual users.

Traditionally, a computer user had to remember all the commands that make a program work. The users had to remember both which command to use to do each task and exactly how the computer expected the command to be typed. And the commands were not always simple and consistent.

Menus make life much easier for users. With a menu, the user only has to recognize the tasks he or she wants to do. The letter or number that the user types replaces the command that had to be remembered.

(Expert computer users still often prefer command-driven programs because they are faster. With menus, you have to make several choices in succession to get exactly the task you want to do. With commands, you can often accomplish several steps at once-for example, tell the system you want to create a new file and name that file all in one command.)

Menus for a computer program come into the realms of both the software developer and the document designer. The software developer usually creates the menu because it is part of the interface-the way the program works for the user.

But menus are also a form of documentation, and, like other documentation, they can be well designed or poorly designed, clear or confusing, easy to use or difficult.

The following are guidelines from the forthcoming book titled Designing Effective Software for Users by Dr. Joseph Dumas.

- Guideline 1. Put a descriptive title on every menu.
- Guideline 2. Use the center of the screen.
- Guideline 3. Organize the options logically.
- Guideline 4. Group the options if they cover different topics. Leave a space between groups.
- Guideline 5. Be consistent
- Guideline 6. Use explicit words that make the options clear.
- Guideline 7. Always provide a way out.
- Guideline 8. Use letters or numbers. If you use numbers, start with 1, not 0 or 01.
- Guideline 9. Prompt the user for corrective action and set the cursor so the user types the option in the correct place.
- Guideline 10. Don't use all capital letters.

Finally, an important question that developers ask is, How many items should a menu have? Researchers don't know what the magic number is or if there is one. Recent research finds that users get to their task more accurately and faster if there are more items per menu and fewer menus (4 to 8 items on 2 to 3 menus are better than only 2 items if you need 4 menus to get to the task). But don't use two screens for one menu. If you have too many choices for one screen, make a hierarchy. For example, if "Print a file" is one choice put all the print options on a second menu. 1

TERMINAL TERM CONTRACT REDUCTION

IBM 3178 terminals available on the mainframe term contract have been reduced to \$1,162.50. For more information, contact Mary Olson in the Resource Management Unit.

DATA ENTRY MOVING TO TEACHER'S RETIREMENT BUILDING

On March 8, the Data Entry Unit will be moving from its current location in the Mitchell Building to their new location in the basement of the Teachers' Retirement Building at 1500 East Sixth Avenue. This new facility will provide the Data Entry Unit an improved working environment.

This move will not affect the services currently offered by the Data Entry Unit. Some users will find the new location more convenient because it is closer to their own office. Other users will obviously find the new location farther from their own office. All users may drop off and pick up their work either at the new Data Entry location or at the I/O Services Section in the Mitchell Building, whichever you may find more convenient. However, we do encourage all our users to stop in at least once and see our new facility.

¹This information is from an article titled Creating Computer Menus That People Understand Easily by Dr. Janice (Ginny) Redish. This article is from Simply Stated, No.61 November-December 1985. It is reproduced with permission.

MICROCOMPUTER SECTION

TERM CONTRACT ADDITIONS

The following items have been added to the IBM Term Contract:

Description	Model	Purchase Price	Upgrade
6180 Color Plotter	001	\$848.10	N/A
	002	\$848.10	N/A
Cable Option:			
RS 323C for IBM 5085	5020	\$33.00	\$35.00
IEEE 488	5040	\$67.32	\$71.40
RS 323C for Personal Computer Attach	5050	\$33.66	\$35.70
Other Option:			
Graphics Enhancement Cartridge	5010	\$99.00	\$105.00
6180 Programming Manual	5060	\$19.14	\$20.30
Supplies Kit	5070	\$85.80	\$91.00
PC/AT Upgrade PC/AT BIOS 30 Meg Drive	0468	\$1396.50	

The following items have been added to the **Leading Edge** Term Contract:

	Model/Unit Number	Price	Maintenance
Hard Disk Expansion	20MB Disk	\$995.00	\$85.00 per year
Hard Disk Expansion	30MB Disk	\$1295.00	\$95.00 per year

Note: A double floppy disk system upgraded with a hard disk expansion unit will result in one hard disk and one floppy disk.

LOTUS 1-2-3 USER GROUP MEETING

A Lotus 1-2-3 user group meeting will be held on March 17, 1986 at 1:00 p.m. in Room 160 of the Mitchell Building. This meeting will be an informal gathering to share ideas and tips on using LOTUS 1-2-3. Contact Ron Heilman at 444-2924 for more information.

GENERAL NEWS

What's In Agency Plans?

Agencies have completed the first phase of their 1987-1989 information systems planning. They have set information system (I/S) goals and objectives and identified key development or modified level I/S projects. Agencies may elect to modify their plans as the 1987 Legislative session draws closer.

Departments are requesting \$18,647,000 for key development or modified level funding for information system projects during fiscal years 1988-1989. The largest planned expenditure category is "Equipment", at \$8,442,000. "Single user computers", account for approximately three quarters of equipment purchases.

The "Contracted Services" category is second largest; agencies plan on spending \$5,266,000 for key development or modified level computer processing and systems development.

Agencies should begin working on Phase 2 of their Information System Plans in September, 1986. See the Phase 2 planning article on page 10 in this issue of News and Views.

The following issues are conspicuous in agency plans:

Microcomputers

Microcomputers are being purchased for use by a wide variety of users; and for a wider variety of data processing and office automation uses:

- Legislative Council is interested in purchasing microcomputers for legislative use, acquiring a small number of microcomputers for the 1989 session, and perhaps eventually providing a terminal for each legislator.

- Agriculture desires to convert its pesticide registration, licensing and permit mainframe data processing system to a microcomputer system.

- Administration hopes to install personal computers for department wide electronic mail, document distribution, and calendaring; eventually electronically connecting executives' offices throughout the Capitol Complex.

Departmental Computers

Several agencies are planning to buy, upgrade or develop systems to perform department or division wide data processing or office automation--for example:

- Highways intends to expand their Intergraph computer aided highway design system by adding additional workstations and software.
- The State Library wishes to install an automated catalog and circulation system for the Library for the Blind and Physically Handicapped, to manage the use of the Library's collection of 'talking books'.

Office Automation

Most plans discussed office automation, word processing, local area networks or typesetting and publishing--to illustrate:

- The Arts Council plans to evaluate local area networks, and Office of Public Instruction hopes to connect Office of Public Instruction buildings with a local area network.
- Labor and Industry's Unemployment Insurance Division is planning several projects, including use of optical character recognition technology and improving records storage media.
- DNRC is concerned with automating its typesetting and publishing processes.
- SRS wants to acquire personal computers to support word processing and online access to all SRS data files from its 65 field offices.
- Revenue is looking to increase word processing capacity and relieve congestion on the Department's current system.

Communications

Communications are a significant and growing part of the plan. Projects include:

- Labor and Industry plans to purchase a new control unit and attached devices to replace discontinued, outdated communications equipment during FY 1988.

- State Lands plans to: provide a central budget for communications services; purchase telefax equipment for the six Land Offices; and to obtain four communications boards for microcomputers to interface with the Dept. of State Lands radio network.

Training

Training is a common theme in agency plans. Plans focus on training for both professional and clerical personnel.

- Military Affairs wishes to develop a training program for all levels of employees of the department to become familiar with information system capabilities.

- Health intends to provide in-service training for staff at all levels by developing at least three or four computer courses.

Computer Maintenance

Agencies are finding they need to reduce the risks and costs of equipment failure.

- Administration, State Lands, and Labor and Industry are considering maintenance strategies, in lieu of or to partially replace or reduce contract maintenance fees.

Information Management

Many agencies discussed information or records management:

- The Secretary of State's Office wants to convert its manual land records system to an electronic system.

- Health plans to develop a departmental data directory.

- Lands will complete implementation of its Department Data Model.

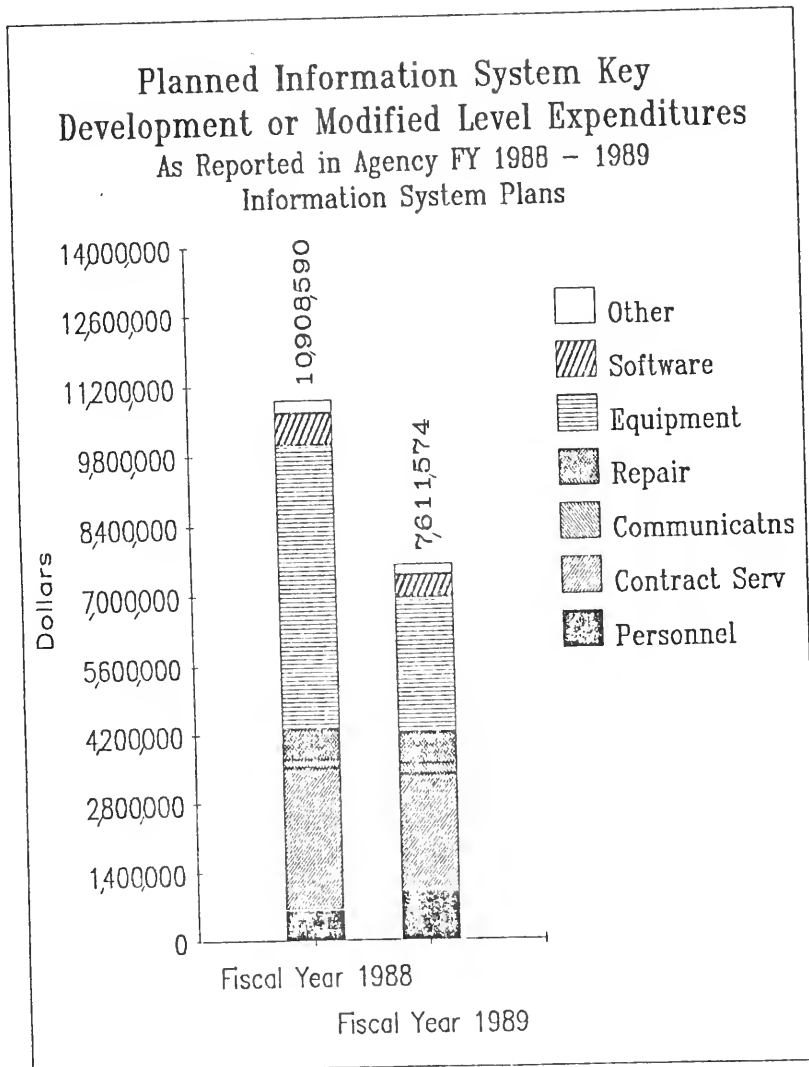
Statewide Budgeting and Accounting System

Most plans considered SBAS--for example:

- Both Commerce and the Governor's Office intend to develop local automated systems to expedite online interaction with SBAS.

- The Legislative Auditor's and the Legislative Fiscal Analyst's Offices intend to acquire software which will extract SBAS data, and help identify and evaluate the major segments of a SBAS fund.

The following graph exhibits planned key development or modified level information system expenditures for fiscal years 1988 and 1989. These figures reflect agency plans going into the Executive Budget Planning Process.



Information System Plan--Phase 2

The second phase of Information Systems Planning has been changed--and we trust improved. These changes should lighten your agency's planning load and enhance the value of the planning process.

Changes to the process, as it appears in the Guidelines:

- o The BENEFITS section has been deleted (Guidelines pages 24-28). Do not describe information system benefits in this part, they have been incorporated into the accomplishments section.
- o The ACCOMPLISHMENTS segment (pages 29-30 Guidelines) has been made more concrete and easier to complete. Do not use the worksheet on page 30.
- o We are developing a data processing equipment inventory system, distinct from the information system plan. Agencies should not complete INVENTORY WORKSHEETS (Guidelines pages 31-33), this information will be gathered separately as part of a physical inventory of data processing equipment.
- o We will be distributing agencies completed worksheets showing actual fiscal year 1986 information system expenditures. Data will be extracted from SBAS and verified or modified by agencies.

We will combine this information with data from the Governor's Budget System (planned expenditures fiscal years 1988 and 1989) to produce completed INFORMATION SYSTEM EXPENDITURE WORKSHEETS (Guidelines pages 36 - 46).

This information will be included in a summary of information system planning, and forwarded to the Legislature.

- o The time line for Phase 2 has been altered to reflect reduced demands for agency planning resources.

September 2, 1986 -- Information Services Division sends agencies completed EXPENDITURE WORKSHEETS (data from SBAS) showing actual FY 86 information system expenditures, and modified ACCOMPLISHMENTS instructions and worksheets to agencies.

October 15, 1986 -- Agencies return first draft ACCOMPLISHMENTS and corrections to FY 1985-86 EXPENDITURE WORKSHEETS to Information Services Division.

November 12, 1986 -- Agencies return final ACCOMPLISHMENTS and corrections to FY 1985-86 EXPENDITURE WORKSHEETS to Information Services Division.

December 19, 1986 -- Information Services Division publishes **summary** statewide planning documents, and distributes to the Legislature.

March 1987 -- Information Services Division returns completed department **detailed** plans to agencies for verification before publishing.

April 1987 -- Information Services Division publishes and distributes detailed agency plans.

If you have questions, please contact Amy Palmer of the Information Services Division at 444-2868.

COMPUTER TRIVIA

Why do diskettes need to be formatted?

Formatting a diskette prepares the diskette to store information by dividing the diskette into sectors and tracks. Formatting checks for defective spots and isolates them so information won't be copied on them and sets up a diskette directory for information storage.

A single-sided IBM PC diskette contains 40 tracks, 9 sectors per track, and holds up to 160k/180k bytes of information. (k=1024 bytes or characters).

A double-sided IBM PC diskette contains 40 tracks, 9 sectors per track, and holds up to 320k/360k bytes of information.

A high-capacity IBM PC AT diskette is a double-sided diskette that contains 80 tracks, 15 sectors per track, and holds up to 1.2M bytes of information. (M=1,048,576).

With an IBM PC or compatible:

Single sided drives:

 You can read and write to:

Single-sided diskettes

Double-Sided Drives:

You can read and write to:
Single-sided diskettes
Double-sided diskettes

High-Capacity Drives:

You can read and write to:
Single-sided diskettes**
Double-sided diskettes**
High-capacity diskettes

****Note:**

If you write on any of these diskette types using a high capacity drive, you may NOT be able to read the diskettes in a single- or double-sided drive.

"COMMUNICATIONS AND COMPUTER SECURITY" CLASS

A "Communications and Computer Security" class has been scheduled for March 27 and March 28. The course will be taught by Phil Freedenberg, Executive Vice President of Federal Engineering.

This class will present a wide variety of security methods and present options for effective implementation of safeguards. This class is geared for technical managers, security officers, and data processing professionals responsible for systems planning. Refer to the **Training Schedule** for details. Call Wendy Wheeler at 444-2856 for more information.

INCREASING YOUR COMPUTER VOCABULARY

Mainframe Terms

COAXIAL CABLE

A type of communications cable used for networks and for connecting terminals to mainframe computers. This cable consists of one conductor usually a small copper tube or wire, surrounded by a shield made of a separate electrically insulated wire.

CPU

Central Processing Unit. The heart of the mainframe computer that controls the interpretation and execution of instructions. It controls input and output units.

DYADIC Processor

The new 3081 computer has a dyadic processor. In prior systems, two processors were connected to provide a multi-processing capability. In contrast, the 3081 is designed as a single unit containing two central processing units. The 3081 central processors cannot be physically separated and run as two processors. Contrast with multiprocessor.

Multiprocessor

A computer system employing two or more interconnected processing units each having access to a common, jointly addressable memory, to execute programs simultaneously. This system can be divided into two separate systems.

Microcomputer Terms

Microprocessor

The central unit of a microcomputer that contains the logical elements for manipulating data and performing arithmetical or logical operations on it.

Chips

Microprocessors that are complete computers on a single chip of silicon. No larger than 1/2 inch square, they contain all the essential elements of a central processor, including the control logic, instruction decoding, and arithmetic processing circuitry.

TRAINING SCHEDULE

MAINFRAME CLASSES

COMMUNICATIONS AND COMPUTER SECURITY: presented by Phil
Freedenberg of Federal Engineering,
Inc.

DATE: March 27 and March 28, 1986
TIME: 9:00 a.m. to 4:30 p.m. each day
PLACE: Colonial Inn, Lewis Room
Helena, Montana
COST: \$125.00
LIMIT: 30
PREREQUISITE: Involvement in agency security
planning
CANCELLATION DATE: March 20, 1986

This class will help the participant understand the techniques for reducing security threats based upon communications, computing, and organizational structures. State-of-the-art security techniques will be covered along with how to apply them in cost effective protection systems.

Some of the topics to be covered include:
Overview of the computer crime problem and the importance of access security
Penetration motives and strategies
Risk analysis methodology
Protection strategies and techniques, countermeasures
Dial-up access Security
Data and File Security
Integrity Management
Case studies
Future trends

SAS - FSCALC (ISD35): presented by Gary Wulf of the Information Center

DATE: April 3 and 4, 1986
TIME: 8:30 am to 4:30 pm
PLACE: Room 14, Mitchell Building
COST: \$100 (Free to MEGACALC users who are converting to FSCALC)
LIMIT: 8
PREREQUISITE: Introduction to SAS or equivalent SAS programming experience
CANCELLATION DATE: March 27, 1986

FSCALC is a mainframe spreadsheet program running under the SAS optional Full Screen Product (FSP).

FSCALC provides all-purpose spreadsheet capabilities for information management. In addition to including features popular in other spreadsheet packages, FSCALC has the important advantage of its direct link to the SAS System. To define relationships among the rows and columns of the spreadsheet, you can use FSCALC's own SAS-like programming language. FSCALC can process SAS data sets as spreadsheets and output spreadsheets as SAS data sets for further processing by other SAS procedures.

MICROCOMPUTER CLASSES

ANNOUNCEMENT

The Information Center has scheduled extra sessions of Beginning Microcomputer Skills and Introduction to Lotus. If you have signed up for these classes and want to take advantage of the earlier dates, please call Wendy or Sheila at 444-2856.

BEGINNING MICROCOMPUTER SKILLS (OA02): presented by the staff of the Information Center

DATE: March 25, 1986

or

DATE: April 10, 1986

TIME: 8:15 a.m. to 4:30 p.m.

PLACE: Room 14, Mitchell Building

COST: \$50.00

LIMIT: 10

PREREQUISITE: None

CANCELLATION DATE: March 18, 1986

April 3, 1986

This course will give participants brief hands-on experience with microcomputers. Topics to be covered:

- The machine
- The operating system
- Word processing
- Spreadsheets and graphics
- File management
- Communications

All class time will be spent using microcomputers and software. The participant will learn what microcomputers can do and how to approach them with a positive attitude. This course or its equivalent is a prerequisite for other microcomputer courses.

INTRODUCTION TO LOTUS 1-2-3 (OA12): presented by Wendy
Wheeler of the Information Center

DATE: March 26, 1986
or
DATE: May 22, 1986
TIME: 8:30 a.m. to 4:30 p.m.
PLACE: Room 14, Mitchell Building
COST: \$50.00
LIMIT: 10
PREREQUISITE: Beginning Microcomputer Skills
CANCELLATION DATE: March 19, 1986
May 15, 1986

This course is designed for anyone with little or no previous 1-2-3 or microcomputing experience.

INTRODUCTION TO LOTUS 1-2-3 will concentrate on 1-2-3 spreadsheet design and commands and the creation of graphics. Printing spreadsheets and graphs is also covered. The more advanced features such as macro programming and database commands are covered in advanced courses.

Class format consists of lecture and hands-on practice followed by lab time on actual agency spreadsheets for further experience.

SPREADSHEET DESIGN AND DOCUMENTATION (OA23): presented by
Ron Heilman of the Information
Center

DATE: April 17, 1986
TIME: 8:30 am to 4:30 pm
PLACE: Room 14, Mitchell Building
COST: \$50.00
LIMIT: 10
PREREQUISITE: Introduction to Lotus 1-2-3 (OA02)
CANCELLATION DATE: April 10, 1986

This class will emphasize the importance, effectiveness and the organizational benefits of good spreadsheet design and documentation. The Lotus 1-2-3 spreadsheet program will be used to demonstrate good and bad techniques. Some methods to track down common mistakes and logic problems will be covered.

Students should have previous spreadsheet experience. A general knowledge spreadsheet applications and concepts is required. Minimum requirements can be met by completing the "Introduction to Lotus 1-2-3" class. Students are not required to be 1-2-3 users, however, if this is the case, or if you are not sure if you meet the minimum requirements, please call Ron at 444-2924.

ADVANCED FEATURES OF LOTUS 1-2-3 (OA21): presented by Ron Heilman of the Information Center

DATE: April 21 and 22, 1986
TIME: 8:30 a.m. to 4:30 p.m. on April 21
LAB 1: 8:30 a.m.-12:00 noon April 22
LAB 2: 1:00 p.m.-4:30 pm April 22
PLACE: Room 14, Mitchell Building
COST: \$50.00
LIMIT: 10
PREREQUISITE: Introduction to Lotus 1-2-3 and Beginning Microcomputer Skills
CANCELLATION DATE: April 14, 1986

This course is designed for those who are very proficient using the basic spreadsheet and graph functions of 1-2-3. Generally, this is achieved during 3 months of developing progressively more difficult worksheets. Features not covered in the introductory class will be included (ex: protection status, range names, combining files, etc). Advanced features such as one and two-way sensitivity analysis tables and database commands will be covered in detail.

Macro programming will be covered in a separate class in May. Class consists of lecture, hands-on practice and a half day of lab work.

INTRODUCTION TO WORDPERFECT (OA18): presented by Sheila Morasko of the Information Center

DATE: April 28 and 29, 1986
TIME: 8:30 am to 3:00 pm on April 28
8:30 am to 12:00 noon on April 29
PLACE: Room 14, Mitchell Building
COST: \$75.00
LIMIT: 10
PREREQUISITE: Beginning Microcomputer Skills
CANCELLATION DATE: April 21, 1986

This course is intended for anyone interested in learning the basics of WordPerfect. This class will concentrate on text creation, use of function keys, editing, formatting, printing, filing, and retrieving documents.

An advanced class for WordPerfect is also available.

ADVANCED FEATURES OF WORDPERFECT (OA20): presented by
Sheila Morasko of the Information
Center

DATE: March 18 and 19, 1986
TIME: 8:30 a.m. to 3:00 p.m. on March 18
8:30 a.m. to 12:00 noon on March 19
PLACE: Room 14, Mitchell Building
COST: \$75.00
LIMIT: 10
PREREQUISITE: Beginning Microcomputer Skills
(OA02) and Introduction to WordPerfect
(OA18)
CANCELLATION DATE: March 11, 1986

For those already using WordPerfect, the advanced class will cover headers, footers, footnotes, macro programming, merging, page numbering and spelling checks.

The next Advanced Features of WordPerfect will be in May.

DISPLAYWRITE 3 - SPECIAL TOPICS (OA40): presented by Sheila
Morasko of the Information Center

DATE: March 14, 1986
TIME: 9:00 a.m. to noon
PLACE: Room 14, Mitchell Building
COST: \$25.00
LIMIT: 8
PREREQUISITE: Beginning Microcomputer Skills
CANCELLATION DATE: March 7, 1986

This course is intended for those already using Displaywrite 3 on a microcomputer for word processing. The special topics class is designed to present tips, shortcuts and advanced features of the package. This session will present information on using Profiles and Document Utilities. There will also be time for questions on other problem areas.

If possible, please bring your Displaywrite software with you to class. This class is also available for those using Displaywrite 2.

CONVERSION FROM MEGACALC TO LOTUS 1-2-3: presented by Gary Wulf and Randy Holm of the Information Center

DATE: March 10, 1986
TIME: 1:00 pm - 4:30 pm

DATE: April 24, 1986
TIME: 8:30 am - 12:00 noon

PLACE: Room 14, Mitchell Building
COST: free
LIMIT: 8
PREREQUISITE: Lotus 1-2-3 experience and a Megacalc spreadsheet to convert
CANCELLATION DATE: March 3, 1986
April 17, 1986

This class is for Megacalc users who will be converting Megacalc spreadsheets to a PC-based spreadsheet using Lotus 1-2-3. Lotus 1-2-3 is supported by the Information Center and a procedure for the conversion has been developed. Most of the formulas will convert.

If your Megacalc spreadsheet is very large, users should be aware of a possible need for extended memory. Please contact the Information Center (444-2973) if you have questions about size.

CROSSTALK XVI (OA25): presented by the staff of the Information Center

DATE: April 25, 1986
TIME: 8:30 a.m. to 4:30 p.m.
PLACE: Room 14, Mitchell Building
COST: \$50.00
LIMIT: 8
PREREQUISITE: Beginning Microcomputer Skills (OA02)
CANCELLATION DATE: April 18, 1985

Crosstalk XVI is a microcomputer communications software package. This course is designed to familiarize the user with asynchronous communications using a microcomputer and this software. It explores what can and cannot be done and how it is done. It will also teach the user how to use and configure Crosstalk XVI for communicating with remote computers. Most features of Crosstalk XVI (with the major exception of the script file command language) will be covered.

ISD ENROLLMENT APPLICATION
(FOR ALL COURSES)

PLEASE COMPLETE THE FOLLOWING APPLICATION AND RETURN
TO INFORMATION SERVICES DIVISION

COURSE: _____

DATE: _____

STUDENT: _____

AGENCY/DIVISION: _____

PHONE: _____

ISD BILLING NUMBER: _____

SOC SEC NO (FOR P/P/P): _____

AUTHORIZED SIGNATURE: _____

HAVE YOU MET THE PREREQUISITES FOR THIS COURSE? PLEASE
EXPLAIN GIVING JOB EXPERIENCE OR CLASS WHEN APPLICABLE

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